INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

M.1300

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SERIES M: MAINTENANCE OF INTERNATIONAL TELEGRAPH, PHOTOTELEGRAPH AND LEASED CIRCUITS

MAINTENANCE OF THE INTERNATIONAL PUBLIC TELEPHONE NETWORK

MAINTENANCE OF MARITIME SATELLITE AND DATA TRANSMISSION SYSTEMS

International data transmission systems

INTERNATIONAL DATA TRANSMISSION SYSTEMS OPERATING AT 2400 bit/s AND ABOVE

Reedition of CCITT Recommendation M.1300 published in the Blue Book, Fascicle IV.2 (1988)

NOTES

1 CCITT Recommendation M.1300 was published in Fascicle IV.2 of the *Blue Book*. This file is an extract from the *Blue Book.* While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation M.1300

INTERNATIONAL DATA TRANSMISSION SYSTEMS OPERATING AT 2400 bit/s AND ABOVE

1 General description

1.1 Figure 1/M.1300 illustrates the composition of an international data transmission system and the nomenclature used.

International data transmission systems may operate at the following typical bit rates: 2.4, 4.8, 7.2, 9.6, 14.4, 48, 50, 56, 64, 128, 192, 256, 384, 768 kbit/s and above.

Several independent data transmission channels may be multiplexed together to form a transmission system operating at an aggregate bit rate of, for example, 9.6, 56, 1544, 2048 kbit/s and above (see Figure 2/M.1300).

Other bit rates or ranges of bit rates are the subject of further study and may be addressed in other M.1300-Series Recommendations and/or Recommendation M.1300.

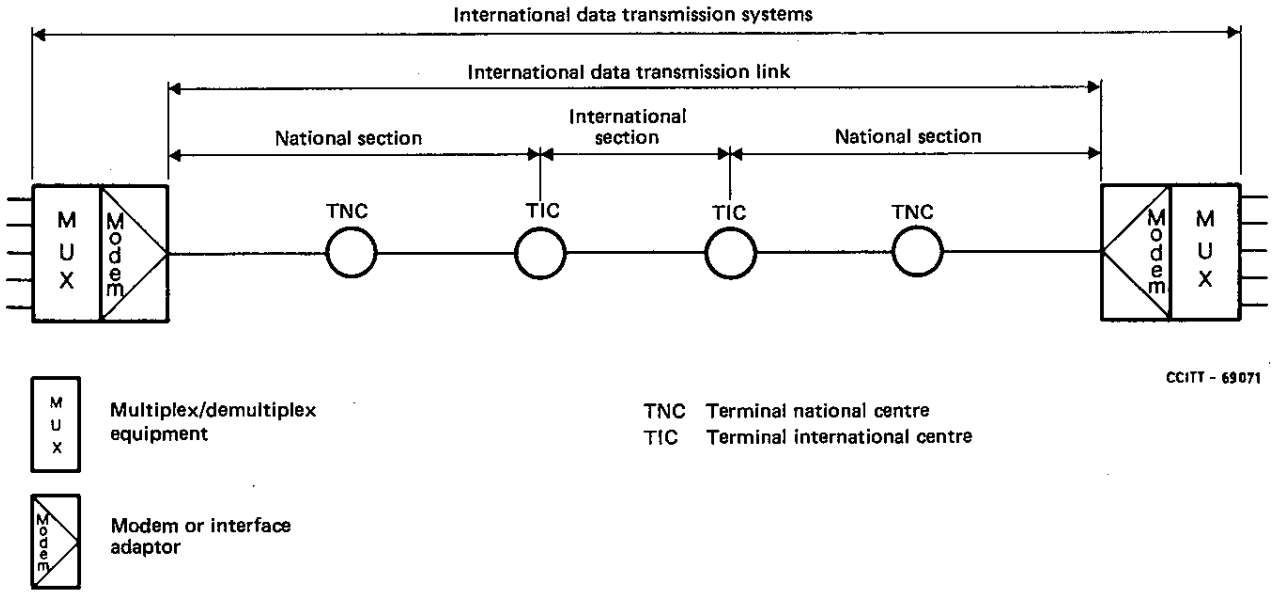

FIGURE 1/M.1300

Basic configuration of an international data transmission system

1.2 International data transmission links can be provided on a variety of transmission media in various combinations:

- local line plant;
- FDM carrier systems operating at a basic group band of 60-108 kHz (e.g. symmetric pair or coaxial cables, microwave radio links, satellites);
- voice grade analogue or digital channels;
- digital links (coaxial or optical fibre systems, microwave radio links, satellite systems).

Appropriate modems or interface adapters are used to provide signals suitable to the transmission medium being used.

1.3 For data transmission links routed via a mixture of transmission media (for example, analogue, digital, satellite single-channel-per-carrier), the term "circuit section" is used to refer to a section of the overall link routed wholly on one type of transmission medium.

1.4 International data transmission systems can be established between Administrations to provide channels for various services. Figure 2/M.1300 illustrates an example of an international 56 kbit/s data transmission system used for such purposes.

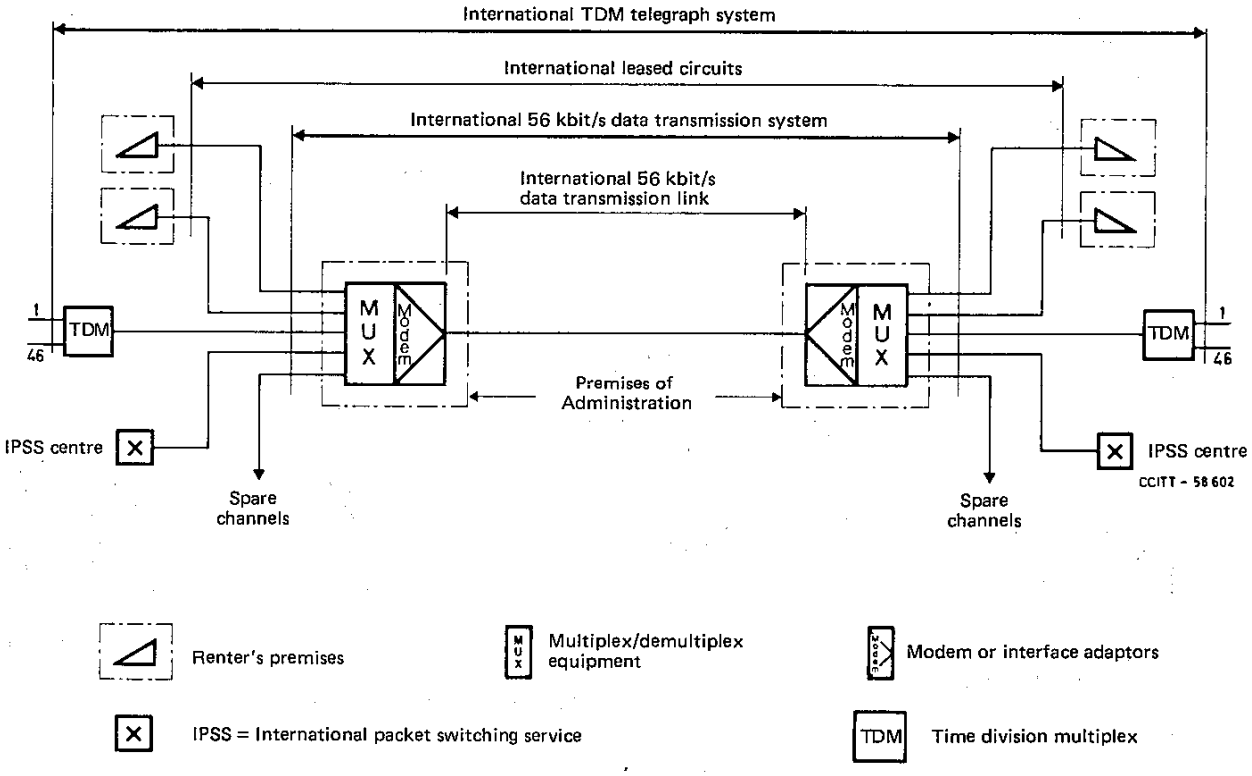

FIGURE 2/M.1300

An example of an international 56 kbit/s data transmission system between two Administrations

2 Data transmission link control and sub-control stations

2.1 One control station for each data transmission link should be agreed bilaterally between the Administrations involved prior to setting up the link. Principles concerning the definition, responsibilities, functions and appointment of control stations may be found in Recommendation M.1012.

2.2 One sub-control station for each data transmission link should be agreed bilaterally between Administrations involved prior to setting up the link. Principles concerning the definition, responsibilities, functions and appointment of sub-control stations may be found in Recommendation M.1013.

3 Reserve arrangements

3.1 Since data transmission links of this nature often carry private leased data systems and/or TDM telegraph systems, some Administrations find it useful to provide a nominated reserve link for restoration purposes in the event of failure of the normal link. This should be decided by bilateral agreement between Administrations at the time of setting up the link. Such reserve links must be lined up to meet the requirements of the normal data transmission link.

3.2 Wherever possible, such reserve links should follow a different route from the route of the normal link.

4 Designations

4.1 The form of designation for the data transmission system and the data transmission link and its nominated reserve may be found in Recommendation M.140, § 11 [1].

4.2 Where the situation illustrated in Figure 2/M.1300 applies, the numbering scheme for derived channels should be in accordance with Recommendation M.1320[1)].

5 Line-up and maintenance of data transmission systems and links operating in the range 48 kbit/s and above

5.1 For guidance on the setting up and lining up of the higher speed international data transmission systems and links operating within this range, reference should be made to Recommendation M.1370.

5.2 For the maintenance methods, procedures and limits that apply to such data transmission systems and links, reference should be made to Recommendation M.1375.

6 Line-up and maintenance of data transmission systems and links operating in the range 2.4 kbit/s to 14.4 kbit/s[2)]

6.1 For guidance on the setting up and lining up of international data transmission systems and links operating within this range, refer to Recommendation M.1350.

6.2 For the maintenance methods, procedures and limits that apply to such data transmission systems and links, refer to Recommendation M.1355.

Reference

[1] CCITT Recommendation *Designation of international circuits, groups, group and line links, digital blocks, digital paths, data transmission systems and related information*, Vol. IV, Rec. M.140.

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1) Recommendation M.1320 is currently limited to data transmission of systems operating up to 9.6 kbit/s. Further study is required to derive a suitable numbering scheme for data transmission systems operating at 14.4 kbit/s and above.

2) Data transmission systems operating at 19.2 kbit/s requires further study.

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